

Hong Kong Walkability Analysis IQP Project Proposal

Sponsoring Agencies: Designing Hong Kong and Harbour Business Forum

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Executive Summary

Mobility in an urban area is essential for two main reasons, business and tourism. Navigating by foot can be difficult, especially if the setting is a historic city lacking formal organization and planning.

Historic urban areas are products of settlements and sprawl which cause these areas to have minimal pattern or structure. Even though urban neighborhoods seem to have no structure, people have found strategies to navigate them effectively for years.

Hong Kong is a historic urban area that is continuously growing on Hong Kong Island and Kowloon, as well as in the New Territories. Like other metropolitan areas, Hong Kong has many attractions to offer its residents and visitors. The Mass Transit Railway (MTR) plays a huge role in moving people around Hong Kong. The MTR does not always provide the most effective means of transportation, but people in Hong Kong tend to rely on the MTR or other public transportation rather than walking the entire distance to their destination. A general understanding in Hong Kong is that people are only willing to walk approximately 400 meters (Paul Zimmerman, email communication, November 20, 2010). This issue arises from the city's layout and infrastructure. Hong Kong is known for having pedestrian tunnels (subways as they are called in Hong Kong) and pedestrian bridges built between buildings and over streets and roads that are sometimes difficult to access. In addition, multiple exits and entrances to MTR stations may lead one in the wrong direction if they are unfamiliar with the area. Navigating Hong Kong by foot is not an easy task, and people generally believe that public transportation is more convenient than walking.

The ease with which a person can walk throughout an area is often referred to as its walkability. Walkability of a city is important to both growth and transportation. By researching many walkability studies, several criteria have been established as important factors to walkability. In addition to these studies, the urban planning of other cities and their resulting walkability can be used as a model. The

Hong Kong Walkability Analysis Interactive Qualifying Project (IQP) was established by Designing Hong Kong and the Harbour Business Forum to enhance the walking experience in Hong Kong.

The purpose of this IQP is to determine the pedestrian friendliness of Hong Kong and the public's perception of walkability in Hong Kong. This will be determined through site evaluations of 22 action areas and an online questionnaire sent to residents of and visitors to Hong Kong. Each action area will be graded on three key factors: safety, convenience, and visual information. Each factor has been divided into several specific subcategories including connectivity and infrastructure. Through a literature review and background research, we determined that these were the necessary factors when assessing walkability.

Using scores from site evaluations and feedback from the survey, we will create specific recommendation plans for the worst areas as well as a general recommendation plan for all of urban Hong Kong. In addition to the recommendation plans, we will use Geographical Information Systems (GIS) to create two walkability maps and a general walkability map of Hong Kong detailing the current worst and best areas.

We hope to gain insight into the walkability of Hong Kong and the different perceptions people may have about walkability in hopes of making Hong Kong a more pedestrian friendly city. By working with Designing Hong Kong and the Harbour Business Forum we hope that our study can be used to benefit their missions of enhancing the living environment and harbor front areas in Hong Kong.

1.0 Introduction

Mobility in an urban area is essential for two main reasons: business and tourism. Navigating by foot can be difficult especially if the setting is a historic city lacking formal organization and planning. Historic urban areas are products of settlements and sprawl which cause these areas to have minimal pattern or structure. Even though urban neighborhoods appear to be unstructured, people have found strategies to navigate them effectively for years.

Hong Kong is a historic urban area that is continuously growing on Hong Kong Island and Kowloon as well as the New Territories. Like other metropolitan areas, Hong Kong has many attractions to offer its residents and visitors. The Mass Transit Railway (MTR) plays a significant role in moving people around Hong Kong. The MTR does not always provide the most effective means of transportation, but people in Hong Kong tend to rely on the MTR or other public transportation rather than walking the entire distance to their destination. A general understanding in Hong Kong is that people are only willing to walk approximately 400 meters (Paul Zimmerman, email communication, November 20, 2010). This issue arises from the city's layout and infrastructure. Hong Kong is known for having pedestrian tunnels (subways as they are called in Hong Kong), pedestrian bridges built between buildings and over roads and highways that are sometimes difficult to access, and multiple exits and entrances to MTR stations, which may lead one in the wrong direction. Navigating Hong Kong by foot is challenging, and people generally find public transportation more convenient than walking.

According to the 2009 census, there are approximately 7 million permanent residents and 584,000 registered motor vehicles in Hong Kong (Census and Statistics Department of Hong Kong, 2009). The city of Hong Kong relies heavily on public transportation, taxis, and walking. With only 426 square miles of land for 7 million residents, there is very little room for personal vehicular transportation; just over 6% of the population owns a private motor vehicle. This reliance on public transportation and walking

defines the life of Hong Kong residents and visitors. Tourism adds to the large population of Hong Kong as over 29 million people visited Hong Kong in just 2009 alone. Sixty percent of the tourists to Hong Kong are from mainland China while the rest are made up of visitors from every region of the world. Tourism in Hong Kong is focused heavily upon the world-class harbor known as Victoria Harbour. Many businesses, markets, and tourist attractions are located on the harbor front. As these destinations are some of the most popular locations, it is very important that both locals and tourists are able to navigate them. It is also essential that these same people find their way from their homes or hotels to their destination and back again. These people rely on many different factors to make the travel more enjoyable and convenient. These factors make up a concept known as walkability.

Though there has been separate research focused on the redevelopment of specific areas of Hong Kong as well as the development of the waterfront, there has not been any research focused explicitly on foot travel in urban Hong Kong (Sucre et al., 2006; Legislative Council Panel on Development, 2010; Berard et al., 2010; Tsai & Doyle, 2007). Hong Kong is considered a walking city, yet the needs and concerns of walkers have not yet been fully studied. If these concerns are not addressed, then any inconvenience that those who walk around Hong Kong encounter will cause further problems. Designing Hong Kong and The Harbour Business Forum have the goal of improving the experience of the walker by creating a more walkable Hong Kong.

The goal of this project is to assess the walkability of urban Hong Kong in terms of pedestrian friendliness and convenience, from hinterland to harbor front, and vice versa. Many objectives need to be accomplished to complete this goal. The group will have to identify the public's perception of the walkability of Hong Kong, determine assessment criteria to best measure walkability, make recommendations to Designing Hong Kong for improvement and enhancement of the pedestrian experience in urban Hong Kong, and create a walkability map. To achieve these objectives, the group

plans to conduct a survey to collect the opinions of walkers in Hong Kong. In addition, the group will be walking through many of the 22 action area districts to complete an assessment of the walkability. At the end of our eight weeks in Hong Kong, we will provide Designing Hong Kong with recommendations for enhancing the walkability of Hong Kong. In addition, this research will provide two walkability maps, one for downtown Kowloon and one for Northern Hong Kong Island. This project is important to increase the amount that people walk in order to continue to showcase everything Hong Kong has to offer including the history of the harbor and hinterland.

2.0 Background

The goal of this project is to develop recommendations to make Hong Kong more walkable.

Walkability of a city is affected by several different factors: culture, location, and time. For some places, walking from work to home may not be feasible, while in other areas, that may be the only option. The history of the area under study must also be considered. In many urban planning situations, other cities can be used as examples to decide the importance of different aspects of walkability. This chapter covers the background information necessary to understand the project.

2.1 Urban Planning

Urban planning is a combination of both transportation planning and land use planning to enhance the development of an area, community, or city (Farr, 2008). Urban planning is affected by a multitude of factors including geography, population density and politics. A city's layout and environment are defined both by design and urban planning, as well as the lifestyle of residents.

2.1.1 Government Policy on Urban Planning of the Harbor Front

Urban planning is greatly influenced by the geography of an area (Daniels and Daniels, 2003). The urban planning of a harbor front city is significantly different than that of a landlocked city. The terms harbor front and hinterland are commonly used in urban planning of waterfront cities. Harbor front refers to the area directly in contact with the water. Hinterland is the area after the closest main road parallel to the harbor front. In harbor front cities, as the population grows, there becomes a greater demand for land because of the variety of potential uses of harbor front property. A process called land reclamation can be used to make more land in the water. This is a highly regulated and controlled governmental process, especially in countries that have limited water or land. The legislature of Hong Kong passed the Protection of the Harbour Ordinance in 1996, one of its most influential pieces of

environmental legislation (Wallis, 1996). The Ordinance stopped all further land reclamation without proper government approval. One major variable in urban planning is population density. The population density is the ratio of the number of people to the area in which they live; it is a critical factor when considering transportation and land use projects.

2.1.2 Vehicular Transportation

There are multiple means of transportation in urban environments (Daniels and Daniels, 2003). Urban planners attempt to create infrastructure that support efficient private transportation systems. As the population density of an area increases, it quickly becomes much more difficult to support private transportation. Thus, the majority of vehicular transportation in older, densely populated cities has become taxis and trucks, or public transportation such as busses, and subways.

2.1.3 Public Transit

In urban environments, public transit is the most frequently used and most desirable means of transportation (Daniels and Daniels, 2003). Mass transit systems become the dominant means of transportation for both residents and tourists. Rapid transit systems have the potential to move hundreds of people in short periods of time. To cause minimal impact, these systems are often built underground as subways or railways. The disadvantage of public transit systems are the fixed point to point destinations causing the need for multiple modes of transportation (i.e. walking to the final destination from an MTR station).

2.1.4 Foot Travel

The oldest and most relied upon transportation system is walking. Especially in dense urban environments, it becomes a necessity to walk to destinations (Daniels and Daniels, 2003). Walking can have as large an impact on urban design as vehicular and public transportation does. In large cities, millions of people need to walk to work on a daily basis. The city must accommodate this need.

Sidewalk widths, street crossings, signs and many other details are important in the urban design. The impact of walking in dense cities is one of the most important concepts in sustainable urban design. Foot travel becomes the necessary mode of transit after an area becomes too crowded for vehicular transit.

2.2 Walkability

The ease with which a person can walk throughout an area is often referred to as its walkability. Walkability is one of the many important considerations for sustainable urban design. It is an important consideration for both residents and tourists to an area. The evaluation of walkability is not an easy task. The difficulty lies in that a combination of objective and subjective factors affects a person's perception of walkability. However, there are tools and processes available to analyze an area's walkability.

2.2.1 Walkability Studies

To better understand the scope and importance of walkability studies, we will review several case studies that demonstrate a wide range of methods and purposes for assessing the walkability of an area.

Many walkability analysis systems emphasize the importance of moderately intensive physical activities, such as walking, for at least thirty minutes per day (Chan, 2009; Hoedl, Titze & Oja, 2010; Millington et al., 2008). These studies focus on strategies that encourage people to walk more often and detail the health benefits of walking. The Cervero (1995) study, on the other hand, demonstrates how the distance traveled and the aesthetics such as scenery of the route affect whether or not people are willing to walk. This is based on the distances to retail and food stores from people's homes along with the population density and building types of each neighborhood. He showed that, in mixed-use neighborhoods in California, where retail and food stores are within 300m, people are more likely to

walk to those stores. An important technique that encourages anyone in a suburban setting to improve its walkability is the Walking Checklist published by Walkable America (2010). This checklist is a tool that anyone can use to assess a route for its walkability.

The need for new walkability studies for various areas comes from the differences in the regions themselves. Diverse cultures, incomes, regional structure (urban vs. rural), and neighborhood amenities change the values placed on specific criteria. The concept of walkability is not the same for a resident of urban Hong Kong than that of an American living in suburban California, even if they are at a similar income level, because of the cultural and structural variations.

Several studies focus closely on integrating several methodologies to complement each other (Chan, 2009; Kelly et al., 2010). Chan uses both quantitative and qualitative methods to create a GIS based audit of the walkability of Hong Kong. Geographic Information System (GIS) is a tool used for displaying all forms of geographically related information. According to GIS.com (2010), “GIS allows us to view, understand, question, interpret, and visualize data in many ways that reveal relationships, patterns, and trends in the form of maps, globes, reports, and charts” (What is GIS section, para. 2). Some of the topics that GIS can map are health, social, environment, and many other forms of attribute data. The factors that Chan (2009) measured include the built environment (infrastructure), dwelling density, connectivity, land use mix, traffic conditions, and the crime rate. Kelly *et al.* (2010) used three different methods to assess the walkability: a computer based tool, an on-the-street survey and an ‘on-the-move’ survey. By combining these techniques and weighting their importance based on preference surveys, a thorough assessment can be made.

2.2.2 Definition of Walkability

Walkability is not defined by the Oxford English Dictionary, but it is readily used in urban planning and analysis (Abley, 2005). Walking spans several professional disciplines including engineering,

planning, and health. These disciplines each refer to walking and the walkability of an area from their own, disciplinary points of view. For example, health officials often focus on the safety of a route instead of its aesthetic merits. Abley attempts to find a more unified definition of walkability by using techniques and definitions from a multitude of diverse fields. He proposes that the definition of “walkability and walkable is: the extent to which the built environment is walking friendly” (p.3). Walking friendly is defined as easy, safe, and convenient to walk. This is a useful, universal definition that can be applied to our study based on the data from other case studies. The use of Abley’s proposed definition allows for the combination of subjective and objective criteria in the assessment of an area.

2.2.3 How to Measure Good Walkability

Walkability is measured by both specific criteria, or metrics, and subjective perceptions. Walkability means varying things to different people. According to Suzanne LePage (personal communication, 11/29/2010), a former urban planner and a current professor at WPI, the two most important criteria for assessing walkability are convenience and safety. Convenience assesses how easy and enjoyable it is to get to a destination, while safety assesses the lighting, signage, crime rate, and state of the infrastructure of an area. One method for assessing walkability is by conducting a walking audit; a popular technique is the Pedestrian Environment Review System (PERS). This system uses both quantitative and qualitative data for the street environment (Transport Research Laboratory, 2010). The PERS system looks at six distinct factors: crossings, public transport, waiting areas, public spaces, interchange spaces between different modes of transport and links such as footways, footbridges and subways. Other systems include the Scottish Walkability Assessment Tool (SWAT) (Millington et al., 2008) and the Bikeability and Walkability Evaluation Table (BiWET) (Hoedl, Titze, & Oja, 2010). Each of these uses a different method to assess the walkability of a region. SWAT uses specific criteria similar to that of PERS, while BiWET uses a sampling of the amenities and other criteria at ten meter intervals. GIS software was incorporated in almost every walkability study found. There are other criteria that depend

on the region and type of city that also influence walkability. Among the other major factors that influence walkability are: sidewalks and pedestrian rights-of-way, traffic and road conditions, and land use patterns such as city layouts, building accessibility, safety and pedestrian and traveler information (Victoria Transport Policy Institute, 2010). The aforementioned criteria make up the majority of the factors to be considered when evaluating the walkability of an area. However, a variety of techniques can be applied to determine the level of walkability in an area, and multiple approaches should be used for a definitive study.

2.3 Walkability in Historic Cities

Walkability designs can be modeled after other cities, taking into account factors, such as waterfronts, large buildings and population densities. In this section, three well known urban cities are discussed. These cities have many characteristics in common with Hong Kong and therefore show similarities, differences and other aspects that need change in the city.

2.3.1 Boston, Massachusetts

Boston is both one of the most historic cities in the United States and the largest city in New England (Banner, 2010). Though many drive to Boston, once in Boston walking is one of the main forms of transportation. Boston has made many improvements to make walking around the downtown area more convenient such as widening sidewalks, blocking certain roads from vehicular traffic and installing more benches and crosswalks. In addition, in the mid 1900s, the planning of the Freedom Trail began. The establishment of the Freedom Trail, a walking trail by definition, allowed all visitors to Boston to follow the trail past many historic sites that Boston has to offer. There are a range of vendors located along the trail, kiosks that offer useful information and benches for people to sit on near the sites along the trail. The Freedom Trail allows a large portion of the city to be seen through a fun exercise involving both entertainment and history.

The waterfront of Boston is an attraction to many tourists (Banner, 2010). Boston Harbor has many historic attractions and numerous entertainment venues. There are tours of the harbor both by boat and Duck Tours. Unlike the Freedom Trail, Duck Tours offer an opportunity to tour parts of the city by vehicle and boat. This enables visitors to see both the harbor and the surrounding areas. Though the trip to the city of Boston may be difficult with all of the construction and tunnels, once inside the city, navigation is both convenient and usually pedestrian friendly.

2.3.2 Shanghai, China

Shanghai's transit system is similar to Hong Kong's transit system. Shanghai has a large metro based system supported by many buses and trains. However, the bus system is more difficult to understand for visitors because not all buses are labeled or travel the same routes every day (Shanghai.gov, 2002). The city itself is set up more grid-like than Hong Kong; however, unlike Hong Kong there is less green space in Shanghai. Hong Kong and Shanghai both have large harbor fronts. However, Hong Kong has created many initiatives to improve the harbor front, while Shanghai continues the main use of the harbor front as trading ports. Differing from Hong Kong, Shanghai's residents preferred biking to any other form of transportation until 1990 when city regulations banned bicycles from many of the main streets. However, Shanghai has already begun planning to add bicycle lanes to these streets that are currently restricted. In addition, Shanghai's laws limit the number of new car registrations. Though Shanghai may not be considered the most walkable in consideration of ease, convenience and safety, the laws and restrictions have forced residents to walk rather than use cars or even bicycles.

2.3.3 New York City, New York

New York City, specifically Manhattan, has a long history. Unlike Boston, the streets of New York City are set up like a grid (NYC.gov, 2010). This structure immediately makes navigation throughout the city much easier than in many other cities. However, New York relies more heavily on its subway

system, having the largest system in the northern hemisphere. The combination of the comprehensive public transit system as well as pedestrian commuters makes New York City the most energy-efficient major city in the United States. Walkers and cyclists account for 21% of traffic throughout the entire city. The grid plan for New York City is one of the most famous uses of this plan. This allows easier navigation and understanding of the layout of the city. In addition, there are clear boundaries. In the past five years, New York has tried to increase the walkability of the city by making sections of the city, like Times Square, pedestrian only, but is this enough? Though New York is easy to navigate, pedestrian friendliness is not the highest. The crime rate, the number of homeless people who line the streets and frequent the subway system, as well as the crowds of people at rush hours are not pedestrian friendly.

2.3.4 Singapore

Singapore is very much like Hong Kong in several ways (Guide Me Singapore, 2010). Singapore is an island country, dependent upon its ports for trade and revenue. In addition, Singapore is one of the four Asian Tigers, like Hong Kong. In addition to having similar geography and economic activities, Singapore has a very similar history to Hong Kong. Singapore is one of the youngest countries in the world. It was acquired by Britain in 1819. During World War II, like Hong Kong, Singapore was occupied by the Japanese. Finally, in 1959, Britain reclaimed Singapore, and it became a self-governing state of the British Empire. Unlike Hong Kong, Singapore gained sovereignty in 1965. Although the city has a similar history to Hong Kong, has very little in common in relation to urban planning with Hong Kong.

Overall, Singapore is considered very easy to traverse (Green Channel, 2010). Though some claim that it is not actually walkable because of the high heat, humidity, and excessive amounts of rain, sources do also acknowledge the excellence in urban planning that exists in Singapore. Though Singapore has a transit system like Hong Kong, the Mass Rapid Transit System (MRTS), Singapore is different in that the city was designed to most easily accommodate the public transit system. This was done by creating an underground network of throughways beneath the business and shopping districts

connecting to the MRTS (Sanyal, 2010). Just as in Hong Kong, Singapore is forced to build up, not across, and it has increased its land area by over 100 square kilometers by land reclamation. The difference between Hong Kong's urban planning and Singapore's is that the British instructed Singapore to designate an area in Singapore based on use (i.e. commercial vs. residential). With this thought in mind, the city was set up with a grid like structure, similar to Manhattan, with the ethnic areas still present today (Cheu, 2009). Singapore is walkable because of the initial interest in urban planning that the British took in the early 1800s, and it has remained as such because of the focus on the public transit system and how to better accommodate and encourage more walking within the city.

2.4 Hong Kong

The history of Hong Kong has played a major role in the city's development. In addition, history can also shape how Hong Kong, or any city, evolves in the future. Hong Kong is unique because of all the changes in ownership it has gone through in the past two hundred years.

2.4.1 History and City Development

Hong Kong was originally part of China. However, during the first Opium War, Britain obtained Hong Kong from China in the Treaty of Nanking in 1842 (Carroll, 2007). This treaty stated that Britain would have ownership of Hong Kong Island. In the second Opium War, started over something trivial, Britain gained ownership of Kowloon through the Convention of Peking in 1861. In 1898, looking to avoid another war with Britain, China leased the New Territories of Hong Kong to Britain. The lease was for 99 years. Then during World War II, the Japanese forcibly took over Hong Kong, as they marched down the coastal region of China. This was initially welcomed but soon hated by the people of Hong Kong. Finally, in 1945 Britain regained rule over Hong Kong. Before the end of the 99 year lease in 1997, China signed the Sino-British Joint Declaration. This stated that the laws in Hong Kong must remain unchanged for 50 years. This included the basic rights of the people and the free economic system. Currently, Hong Kong

and China operate under the “One Country, Two Systems” motto. This will remain until 2047 when China will regain complete control over Hong Kong and will no longer be restricted by the Sino-British Declaration.

Originally, Hong Kong was not urbanized; it was rural and underdeveloped for most of its history (Carroll, 2007). There were never plans for the city to grow as large as it has. Consequently, the original layout of the city was unplanned. As more people moved to Hong Kong throughout the years for various reasons, the population of Hong Kong significantly increased. However, because of the turmoil in the years leading up to the 1950s, there was no settlement plan for the city (Wordie, 2002). Without such a plan, large squatter camps were established, and there was little organization to most of the city. Because of this lack of organization, many people believe that Hong Kong is difficult to navigate. However, many recent studies and organizations such as Designing Hong Kong and The Harbour Business Forum have expressed interest in redevelopment efforts to make Hong Kong easier to traverse by foot.

2.4.2 Land Reclamation

Beginning in the late 1800s, the use of landfill for land reclamation has slowly shrunk the size of the harbor in Hong Kong (Harbour Business Forum, 2006). Figure 2.1 shows the shrinking of the harbor since 1904. The constant reclamation has caused a negative change in the attitude towards parts of the harbor because it has become smaller and smaller over the years. Land reclamation created more real estate. However, organizations such as the Harbour Business Forum have criticized the practice of land reclamation. Due to the lack of available, buildable land, buildings are constructed vertically rather than horizontally. This causes walking through Hong Kong to be difficult to navigate and inconvenient because tall buildings yield low visibility.

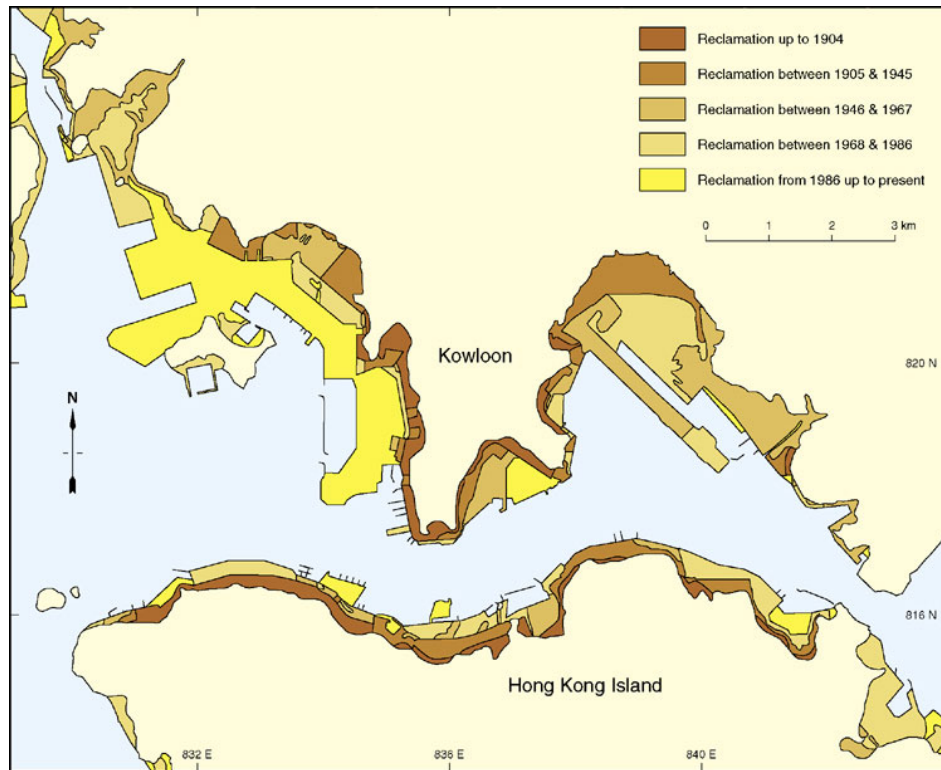


Figure 2.4-1: Harbor Reclamation of Hong Kong since 1904 (Harbour Business Forum, 2006)

Figure 2.1 shows the steadily decreasing distance between Hong Kong Island and Kowloon over time (Harbour Business Forum, 2006). This decrease in the width of the harbor has caused unrest among many locals in Hong Kong due to the adverse effects of land filling on the environment, like the destruction of habitats as well as causing problems with water pollution.

2.5 Hong Kong Island

Hong Kong Island, the heart of the city of Hong Kong, is about 80 square kilometer. Many attractions are available around the island.

2.5.1 Geography

There are four districts of Hong Kong Island: Central and Western, Eastern, Wan Chai and Southern (Home Affairs Department, 2010). Central and Western, Eastern, and Wan Chai, will be the main focus of this report. Figure 2 highlights the boundaries of each district.



Figure 2.5-1: Districts of Hong Kong Island (Home Affairs Department, 2010)

The Central and Western District is 1,240 hectares and extends from Kennedy Town to Central District (Home Affairs Department, 2010). This land includes both residential housing and commercial building space and is considered one of Hong Kong's most historic areas. The area becomes more developed and populated as you approach Central. The western areas of Hong Kong Island are not very well connected to the central areas of the island. The MTR (2009) does not have a station in Kennedy Town, forcing people to use other forms of transportation to travel to and from that area of Hong Kong Island. However, the MTR does have plans to expand the Western Island Line to Kennedy Town. This district is less urban than the central districts and has many parks and playgrounds. These parks and

playgrounds are located in the southern side of the Western District, while the harbor front areas are urbanized with high-rise buildings and industrial cargo ports.

The Wan Chai District is 976 hectares and consists of Admiralty, Wan Chai, and Causeway Bay. Wan Chai used to be a small fishermen's village but has expanded to become the center of Hong Kong Island (Home Affairs Department, 2010). In the 1920's, Wan Chai saw its first expansion into the harbor and, at the end of the land reclamation period, an additional 36.4 hectares of land was added to the original Wan Chai District. Today, Wan Chai is the "hub of transportation" for Hong Kong Island, connecting the island to Kowloon by means of the Cross Harbour Tunnel (Home Affairs Department, 2010). Many people visit Wan Chai for its world-class shopping and entertainment.

The Eastern District is 1,900 hectares and consists of North Point, Tin Hau, Quarry Bay, and Chai Wan (Home Affairs Department, 2010). Most of the eastern side of the island is urbanized, especially in North Point. The Eastern District is one of the most populous areas on the island. Over time, "Quarry Bay developed into one of the first industrial centers in Hong Kong" ("Eastern District"). The industrial business also developed the area "into a self-sufficient community with bungalows, shops of various kinds, a hospital and several reservoirs" ("Eastern District"). Today, the Eastern District is a very urban area; however, there are also many parks and green spaces in the southern part of this area including Tai Tam Country Park.

2.5.2 Hong Kong Island Tourism

Every district on Hong Kong Island has many popular attractions that appeal to both visitors and residents. In the Western and Central District, there are temples, shops, and dining areas as well as museums and parks. These attractions stretch from the Lo Pan Temple in Kennedy Town to the Flagstaff Museums of Tea Ware in Central. However, the Western District is mostly residential without any big attractions to draw tourist to the area (Hyde, et al., 2008). Wan Chai is one of the most popular districts

in Hong Kong. “Each day, crowds of people come to the district to experience its vitality and fascinating diversity” (Home Affairs Department, 2010, Wan Chai District section, para. 5). Popular attractions in Wan Chai include the Hong Kong Convention & Exhibition Centre, Central Plaza, and Times Square. The Times Square shopping center is located near Causeway Bay. It is a very popular attraction, not only for shoppers, but also for restaurant enthusiasts because it contains many fine dining establishments. The Eastern District is home to the Museum of Coastal Defense, located in Shau Kei Wan, and has numerous shopping areas and recreational parks. While the main attractions in Eastern are spread throughout the area, they are all accessible via the MTR.

2.6 Kowloon

Kowloon is a 47 square kilometer peninsula that juts south from the New Territories (Census and Statistics Department of Hong Kong, 2010). To the south of Kowloon, just across Victoria Harbour, lies Hong Kong Island.

2.6.1 Geography

Kowloon is comprised of fourteen districts. Our team found it useful to divide these districts into the following regions.

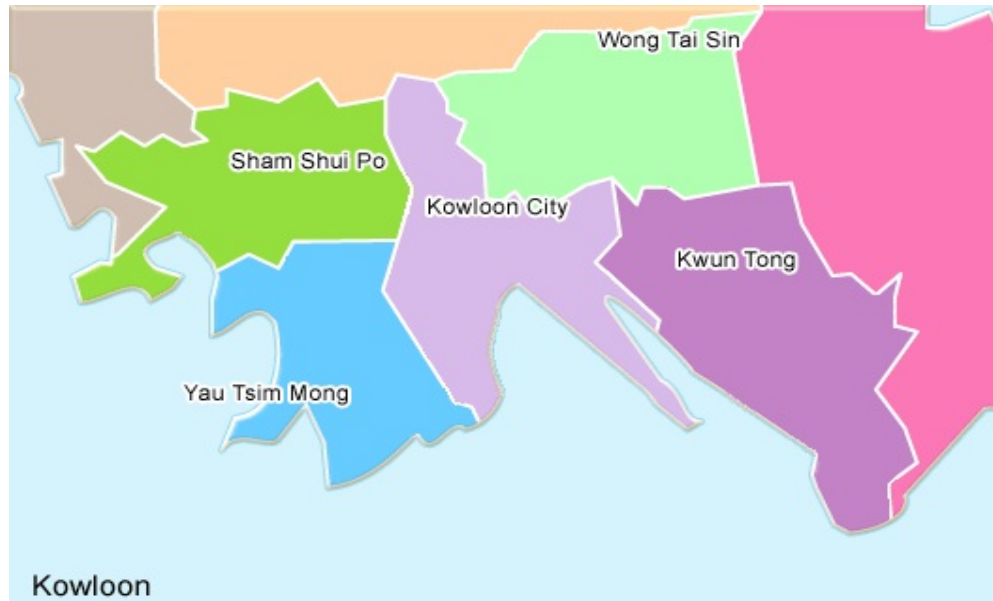


Figure 2.6-1: Map of Kowloon Administrative Districts

The Kwun Tong District is comprised of four districts, Lei Yue Mun, To Kwa Wan, Yau Tong and Yau Tong Bay. Kwun Tong is one of the largest administrative districts in Hong Kong, housing more than eight percent of Hong Kong's population within its 1,130 hectares (Home Affairs Department, 2010). The district contains industrial, business, and residential sections and many new redevelopment projects are in progress. Recently, Kwun Tong has focused its efforts on the Lei Yue Mun Waterfront Enhancement Project. This project aims to provide “a public landing facility, a breakwater and a waterfront promenade” to enhance the attractiveness of the waterfront and draw in more visitors (Tourism Commission, 2010, Lei Yue Mun Waterfront Enhancement Project).

The Kowloon City District is comprised of four districts, Hung Hom East, Hung Hom West, Tsim Sha Tsui East and Tsim Sha Tsui West. The retired Kai Tak airport is also a part of Kowloon City. Hung Hom is

mainly residential while Tsim Sha Tsui is home to both businesses and residences (Home Affairs Department, 2010). Though mainly residential, the Kowloon City District is home to shopping malls and other tourist attractions. With over two hundred schools, Kowloon City has the highest density of schools in Hong Kong.

The Yau Tsim Mong District is comprised of two districts, Yau Ma Tei, and the West Kowloon Cultural District. These two districts blend the old and the new together. Yau Ma Tei, which includes Mong Kok, and the West Kowloon Cultural District are some of the most popular districts in Kowloon for tourists. Mong Kok is also the most densely populated residential district in Hong Kong (Home Affairs Department, 2010).

The Sham Shui Po District is comprised of three districts, Tsing Ye, Western Harbour, and Tsuen Wan. The Sham Shui Po District is mainly a residential area with industrial and commercial developments as well (Home Affairs Department, 2010). It is the home of the first public housing project in Hong Kong, Shek Kip Mei Estate. It is still one of the most densely populated districts in Hong Kong, retaining old tenement apartment buildings while building new public and private housing estates in the newly reclaimed section.

With the exception of To Kwa Wan and Kai Tak, all of these regions are close to MTR stations (MTR Corporation Limited, 2009, System Map). This means that, along with the use of busses and ferries, they are all accessible via public transportation. Over four billion trips are made each year using Hong Kong public transit (Census and Statistics Department of Hong Kong, 2010, Public Transport Passenger Journeys). It is unknown how many trips are made on foot.

2.6.2 Kowloon Tourism

Tourism is an important industry in Hong Kong. Each district in Kowloon is home to many tourist attractions ranging from temples, museums, and parks to shopping and dining areas. Some of

Kowloon's major tourist attractions include The Avenue of Stars on the Tsim Sha Tsui Promenade, A Symphony of Lights, the Ladies Market, and the Temple Street Night Market (Hong Kong Tourism Board, 2010, Attractions). Located on the Tsim Sha Tsui Promenade, The Avenue of Stars features "commemorative plaques, handprints of movie celebrities, descriptive milestones, kiosks with movie memorabilia, a towering Hong Kong Film Awards statuette, and a life-size statue of the legendary kung-fu action star, Bruce Lee" (Avenue of Stars). This is a very popular tourist destination and is similar to Grauman's Chinese Theatre in Hollywood, USA. The Avenue of Stars is just as popular at night as a viewing point for A Symphony of Lights over Victoria Harbour, the world's largest permanent light and sound show (Symphony of Lights). This nightly display encompasses more than 40 buildings on both sides of the harbor and is able to be viewed from either side of the harbor or aboard a harbor cruise. The Kowloon City District hosts several cultural destinations such as Ko Shan Theatre, the Kowloon Central Library, and Kowloon Walled City (Home Affairs Department, 2010). Yau Tsim Mong is home to "The Temple Street [Market], Ladies Market, Yau Ma Tei Jade Bazaar and Mong Kok Flower Market" (Home Affairs Department, 2010, Yau Tsim Mong). Tourism increases the need for good walkability because of the number of people visiting each attraction.

Though various organizations have focused their research on the redevelopment of specific areas of Hong Kong as well as the development of the waterfront, there has not been any research focused explicitly on foot travel in urban Hong Kong. Hong Kong is considered a walking city, yet the needs and concerns of walkers have not yet been fully researched. A study of the walkability of Hong Kong from hinterland to harbor front and vice versa must be conducted to better understand these needs. Further information is required regarding the needs and motivations for residents and visitors to walk in Hong Kong.

3.0 Methodology

The goal of this project is to provide Designing Hong Kong and the Harbour Business Forum with a general recommendation plan for the walkability of the 22 action areas, as well as two specific recommendation plans for the worst assessed areas, one in Hong Kong Island and one in Kowloon. In order to determine the least and most walkable action areas, we have determined three key factors for assessing walkability. Along with these key factors, we will also be conducting a survey using an online questionnaire.

3.1 Strategy for Assessing Walkability

Each action area will be visited at least once for approximately four hours and will be graded on three key factors. Based on our research and information provided by our sponsors, the three key factors for assessing walkability are the safety, convenience, and visual information in the area. During each visit, two observers from our team will grade each site on a scale of one to three in each category; there will also be an additional comments section on the rating sheet for the observer to give his/her perception of the overall experience in that specific action area. The team will also use photographs to document each site in order to provide visual information for future reference. These ratings will be used to rank the action areas from the least to most walkable areas for both Hong Kong Island and Kowloon. Then, the worst two and best two action areas of both Hong Kong Island and Kowloon, a total of 8 action areas, will be visited again for further assessment. This assessment will include visiting the sites on different days (including the weekends) and at different times (i.e. morning, afternoon, night) to gain a better understanding of why the walkability is better or worse in those areas and whether it depends on the time of day or the day of the week.

3.1.1 Safety

Professor Suzanne LePage (personal communication, 11/19/2010) named safety as an important factor in assessing walkability. There are four sub-categories under safety; these are street lighting, number of people, public safety, and the condition of the area. For the initial visits to each site, each action area will be graded on each of the sub-categories. Professor LePage mentioned lighting as a measure of safety because of the dangers of walking in a dark, urban environment. Street lighting includes lighting inside subways, overpasses, and lighting of alleyways. The number of people is a safety issue because there are the dangers associated with crowds or being alone in an area. Crowding is viewed differently by residents versus tourists. We will take this into consideration when scoring each site by noting our own perceptions, similar to those of a tourist, of the area. This investigation will employ stratified levels to characterize the number of people in a given observed action area (i.e. three levels: zero to a few people, a moderate number of people and many people). A clearer-detail breakdown will be determined after arriving in Hong Kong because we will be able to get a better sense of the issue. Public safety will be gauged by the number and frequency of police patrolling an area and the presence or absence of a police station nearby. The condition of the area includes a critique of the physical condition of sidewalks, subways, and overpasses. Other structures not listed above that a pedestrian may encounter will also be considered in the comments section on the rubric. The score of the sub-categories will be added up for a total safety score.

3.1.2 Convenience

Professor Suzanne LePage's (personal communication, 11/29/2010) definition of walkability also included convenience, the ease by which people are able to travel around an area. For the purposes of this investigation, pedestrians are considered to have no physical, mental, visual, hearing or other disabilities. The team identified two sub-categories to examine more closely, infrastructure and

amenities. Infrastructure is integral to connectivity. To measure connectivity, the team will pick two points (i.e. A: an attraction and B: a restaurant) in each action area that are about one mile apart. We will then traverse on foot from A to B assessing the connectivity of the infrastructure encountered. We will use a trial and error method of travelling to the different points of interest. Documentation will be used for all paths travelled on and any backtracking will be recorded. Amenities are sitting areas, MTR stations, bathrooms, and parks and recreational facilities. Amenities are an important feature of walkability as they provide a more pedestrian friendly area. To investigate this feature of walkability, areas with no to little amenities will be considered as having poor walkability whereas areas with many amenities will have good walkability. Table 3.2-2 shows how each area will be scored for amenities.

3.1.3 Visual Information

Visual information areas are defined as available information in a specific action area. There are two main sub-categories of visual information: signage and maps and kiosks. Signage is a significant factor in assessing walkability. To assess signage, this study will utilize four scoring criteria: the number of signs in an area, the languages of signs, visibility of the sign, and whether the sign indicates a walking direction. Visibility will be scored for lighting and how easily it can be spotted based on the grader's perception. Other visual information criteria include area maps and kiosks that display information about the area.

3.1.4 Survey

Our team will conduct a survey using an online questionnaire, via the website SurveyMonkey.com, to gain insight into people's perceptions of the walkability of Hong Kong. We plan to email the online questionnaires to two email aliases, Designing Hong Kong and Harbour Business Forum. These aliases contain both residents and visitors that are alliances of their respected organizations. We do anticipate that our feedback will be biased but we hope to get a larger response as the people on the aliases have a connection to the sponsors and support their missions. The

questionnaire will not only gather data on people's perceptions of walkability but will also gather opinions on the most walkable areas in Hong Kong, as well as identify specific areas that need improvement. The questions from the questionnaire can be found in Appendix E. The feedback from the questionnaire will be used as a reference when determining the least and most walkable action areas. In addition, this feedback will contribute to the general recommendation plan.

3.2 Scoring system

The key to assessing walkability is a well-defined scoring system. Walkability is the measurement of how easy an area is to walk. To accurately measure this, one must consider both objective and subjective measurements of an area. The subjective measurements will be collected through a survey and the team's personal observations of each area. The objective measurements will be recorded as numerical data. The team will use an objective rating system similar to that of the Pedestrian Environment Review System (PERS), the most widely used and developed system for conducting a walking audit (Transport Research Laboratory, 2010).

Our rating system for the objective measures will range from a score of one to three for each category analyzed. The team will determine the distinct breakdowns upon familiarization with Hong Kong. An Excel spreadsheet will track all the data and complete all of the necessary calculations. This will keep the data organized and enable a thorough analysis of the collected data. Once all of the data have been entered into the Excel spreadsheet, the areas will be clustered into three groups based on calculated walkability scores. The walkability score will be the total score generated by the summation of the sub-categories.

Finally, through the use of GIS software, the team will create maps with Red/Amber/Green (RAG) color coding correlating to the grading scale. Each area will be graded once, then, based on a

combination of the objective data and the groups subjective perceptions, we will be able to choose the two best and worst districts for both Hong Kong Island and Kowloon. The group will then proceed to reevaluate the different districts based on the time of day, day of the week, and different sections of the action area. These reevaluations will form the basis for our in-depth walkability maps and specific area recommendations. The main evaluations will provide us with general walkability scores and a plot of these scores and their correlating areas in Hong Kong. The following tables 3.2-1, 3.2-2 and 3.2-3 show the team's three grading rubrics. These rubrics will measure the walkability of each action area.

The three rubric criteria are safety, convenience and visual information. Each of these three factors break down into several sub-categories (tables 3.2-1, 3.2-2 and 3.2-3) which facilitate a more in-depth and accurate rating. These rubrics will be printed and carried with the team to the action areas to record the data. At the end of the day, these values will be entered into the Excel spreadsheet and calculations will be generated. Our scoring system will be used as a general walkability scoring system for the action areas in Hong Kong and for a more in-depth analysis of selected areas by including time of day and smaller regions within the action areas. The following tables show the general rubrics for our data collection and one example of the in-depth study rubric we will use.

Table 3.2-1: Scoring Rubric for Safety

Safety		
Area	Categories	Rating 1 to 3
Kowloon/HKI (Circle One)		
	Street Lighting	
	1-Minimal street lighting, 2-Majority streets lit, 3-Almost all street lit	
	Number of People	
	1-Over crowding, 2-Heavy crowding, 3-Minimal Crowding	
	Public Safety (Police)	
	1-No police easily spotted, 2-Police around in district, 3-Police station in district	
	Area and Structure (Average)	
	> Alleys	
	1-A lot of back alleyways, 2-some back alleyways, 3-minimal back alleys	
	> Physical State	
	1-A lot of broken down infrastructures, 2- Some broken infrastructures, 3- Minimal to no broken down structures	
Comments:		

Table 3.2-2: Scoring Rubric for Convenience

Convenience		
Area	Categories	Rating 1 to 3
Kowloon/HKI (Circle One)		
	Infrastructure (Average)	
	> Crossings	
	1-Minimal number of street crossings, 2-Some Street Crossings, 3-A lot of often street crossings	
	> Connectivity	
	1-Many streets do not connect, 2 Streets are connected, 3 Streets connect in multiple locations	
	Amenities (Average)	
	> Sitting Areas	
	1-minimal to no sitting areas, 2-sometimes sitting areas, 3- A lot of sitting areas all over	
	> Public Transit Stations	
	1- 0-1 Stops, 2 Stops, 3 or more Stops	
	> Toilets	
	1-Limited to no public toilets, 2-Some public toilets, 3-frequent and easily accessible toilets	
	> Parks and Recreation	
1-Little to no public park area, 2 some public park areas (1 main park), 3 a lot of public parks		
Comments :		

Table 3.2-3: Scoring Rubric for Area Information

Visual Information			
Area	Categories	Rating 1 to 3	
Kowloon/HKI (Circle One)			
	Signage (Average)		
	> Number of Signs		
	1-Minimal to no signs, 2-Most of the streets have signs, 3-All streets have at least 1 sign		
	> Language		
	1-Most signs only in 1 language, 2-Most signs in 1 languages, 3-Most signs in 2 or more languages		
	> Visibility		
	1-Minimal lighting and visibility, 2-Most signs are lit OR easily visible, 3-Most signs are lit and easily visible		
	> Directional		
	1-Minimal to no directions, 2-Some directions with signs, 3-Most signs include directions		
		Other Information (Average)	
	> Maps		
1-Minimal to no maps in the area, 2-Some maps in the area, 3-A lot of maps in the area			
> Info Kiosks/Help			
1-Minimal to no help in the area, 2-Some help in the area, 3-A lot of help in the area			
Comments :			

Table 3.2-4: In Depth Scoring Rubric for Safety

Safety IN DEPTH		
Area	Categories	Rating 1 to 3
Kowloon/HKI (Circle One)		
	Street Lighting	
Time of Day:	1-Minimal street lighting, 2-Majority streets lit, 3-Almost all street lit	
Region:	Number of People	
	1-Over crowding, 2-Heavy crowding, 3-Minimal Crowding	
	Public Safety (Police)	
	1-No police easily spotted, 2-Police around in district, 3-Police station in district	
	Area and Structure (Average)	
	> Alleys	
	1-A lot of back alleyways, 2-some back alleyways, 3-minimal back alleys	
	> Physical State	
	1-A lot of worn down buildings, 2- Some worn down buildings, 3- Minimal to no worn down buildings	
Comments:		

3.3 Data Application

Using the site evaluations and feedback from the questionnaires, the 22 action areas will be ranked from least to most walkable for Hong Kong Island and Kowloon and the team will provide recommendations for the worst areas as well as general recommendations for every site. Using this information, a map of all of Hong Kong will be plotted using the RAG scale presenting all the action areas' level of walkability using GIS software. Additionally, two walkability maps will be created, detailing the best routes to travel by foot to navigate in the least walkable districts.

3.3.1 Action Areas

The regions that the team will be examining are the 22 action areas of the Harbour-front Commission. The tables below contain the areas that we will be analyzing (Table 3.3-1, 3.3-2). In addition, an application of Google Maps was used to easily create a map that was interactive and easily changed. This is shown in the figure below (Figure 3.3-1). Google Maps allows the map to be saved and for the team to continue to change and improve the map.



Figure 3.3-1: 22 Action Areas in Google Maps

Table 3.3-1: Table List of Action Areas on Hong Kong Island

1. Kennedy Town	4. Sheung Wan	7. Wan Chai East
2. Sai Wan	5. Central	8. Island East
3. Sai Ying Pun	6. Wan Chai West	9. Chai Wan

Table 3.3-2: List of Action Areas in Kowloon

1. Tsuen Wan	6. Hung Hom East	11. Yau Tong Bay
2. Tsing Yi North	7. Hung Hom West	12. Yau Tong
3. Kai Tak	8. West Kowloon Cultural District	13. Lei Yue Mun
4. Yau Ma Tei	9. Tsim Sha Tsui West	
5. To Kwa Wan	10. Tsim Sha Tsui East	

3.3.1 Walkability Maps

After collecting all of the data, the team will devise two walkability maps of the worst areas, one for Hong Kong Island and one for Kowloon. The maps will be easy to read and highlight the best walking routes along with the main attractions and other appealing locations in those areas.

In addition to the maps of the best assessed action areas, a map of Hong Kong will be created showing all of the action areas' walkability. Using GIS software and a red, amber, green scale of poor, medium, and good walkability we will map the walkability of the action areas. This will show which areas in Hong Kong need improvements and which ones are pedestrian friendly.

3.3.2 Recommendations

The team will develop a set of recommendation plans for the walkability of Hong Kong. The general recommendation plan will be applied to all of urban Hong Kong. The two site specific recommendation plans will pertain to the worst actions areas, one on Hong Kong Island and one in Kowloon. The specific recommendation plans will only contain improvements that can be made for the specific action areas. All the recommendations will be made with considerations for cost and time in order to make the

recommendations feasible and practical. The feedback from the questionnaire along with the site evaluations will be used for the recommendation plans.

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Appendix

Appendix A: Sponsor Descriptions

Designing Hong Kong

Designing Hong Kong (DHK) (2010) is a public, non-profit organization. DHK is focused on restoring and recreating Hong Kong. DHK's mission is based on achieving the following six objectives:

1. To promote the health, safety, convenience and the general, social, and economic welfare of the community of Hong Kong today, without compromising the future;
2. To identify ways and means of enhancing the quality and sustainability of Hong Kong's living environment for the health, safety, convenience and welfare of residents and visitors;
3. To undertake research and studies into the design and development of Hong Kong's living environment;
4. To educate and raise the awareness among the community on the need to protect and enhance the living environment of Hong Kong, and the ways and means to do so;
5. To form alliances among members of the community with a common interest(s) in protecting and enhancing the living environment of Hong Kong
6. To undertake any and all lawful acts and deeds which are necessary and conducive to attaining the objects of the Company (About Us).

Designing Hong Kong (2010) was founded in 2006. This organization has four founders: Christine Loh, Markus Shaw, Paul Zimmerman, and Peter Wong. Most of the work that is done with DHK is done by volunteers. DHK's financial support comes from donations from outside sources such as the

government. DHK has both strong government influence and information as resources to offer our group. The main employees who work for DHK are politically involved, and thus they have the ability to reach out to other organizations.

Designing Hong Kong (2010) is involved with many other organizations for the preservation and beautification of Victoria Harbour. These partners include the Centre of Urban Planning and Environmental Management and the Department of Architecture at Hong Kong University, the Department of Architecture at the Chinese University of Hong Kong, the Harbour Business Forum, Citizens Envisioning the Harbour, the Hong Kong Sustainable Development Forum, the Hong Kong Designers Association, and Città d'Acqua (Cities on Water) (Hyde, Seymour, Tennant, & Truong, 2008). It is also advised by the Hong Kong chapter of the Urban Design Committee of the American Institute of Architects. DHK (2010) is involved with the WWF, the HK Maritime Museum, the Building Consensus on Sustainable Planning, and Harbour Watch. Previously completed projects include a competition for the design of the Central Waterfront in which winning entries were submitted to the government for use in their urban design study (Hyde, Seymour, Tennant, & Truong, 2008). Another project was a community re-zoning request for the Central waterfront to the Town Planning Board.

Harbour Business Forum

The Harbour Business Forum (HBF) (2010) is a group of businesses and business members who share a common vision about the Hong Kong Harbour and harbor-front areas. "HBF was formally launched in June 2005, due to a concern about how developments in and around our harbour could have a negative impact upon the future development of Hong Kong" (About Us). As stated on the HBF website, their "mission is to see Hong Kong's harbour and harbour-front areas become a genuinely vibrant accessible and sustainable world-class asset" (About Us). Their aim is to give guidance to relevant stakeholders and the government when planning for the harbor's future. They are a research

development organization sponsored by the Patrons of the organization. A Patron is the highest form of membership and commits to funding as well as overseeing the direction of the HBF. There are currently ten patrons.

Under the patrons is the Executive Committee (Harbour Business Forum, 2010, About Us). The Executive Committee is comprised of the Senior Representatives and a chairperson from each working committee. Also a part of the Executive Committee is the Secretariat, who ensures good communication throughout all parts of the organization. The two working committees are the Best Practice Committee and External Relations and Communication Committee. See Figure A-1 below for a visual representation of the structure of the HBF. Overall, the HBF has 121 members that range from corporate members to supporting members. Some of their affiliates are Harbour-front Enhancement Committee, Harbourfront Commission, Designing Hong Kong, Friends of the Harbour and many other government departments and organizations.



Figure 0-1A: Structure of HBF (Harbour Business Forum, 2010, About Us)

The HBF's main interests are with Victoria Harbour, and thus it has provided a wealth of information about both the harbor in Hong Kong and various other world harbors. The majority of the HBF's funds go

to projects that try to influence government policy and decisions about the harbor-front areas. The HBF has produced numerous papers and studies about Victoria Harbour in hopes that they will contribute to improve the development of the harbor. For example, in 2010, the HBF sponsored a group of students from Worcester Polytechnic Institute to conduct a survey of the waterfront to determine the uses of the harbor from a marine perspective (Harbour Business Forum, 2010, Research). Their website posts news and press releases about the harbor and gives current news about Victoria Harbour (Harbour Business Forum, 2010).

Appendix B: Why is Hong Kong Walkability Analysis an IQP?

Worcester Polytechnic Institute is known for its project system. The IQP, Interactive Qualifying Project, is one of the three projects required for graduation at WPI (Worcester Polytechnic Institute, 2010). This graduation requirement can be completed on campus, but also gives many students the opportunity to travel abroad. An IQP does not normally focus on the area of science or engineering the student is studying, but gives students the opportunity to solve real world problems using interdisciplinary methods. These projects can benefit people all around the world and are frequently sponsored by outside companies or organizations. Students must learn to think globally and understand the impacts of science and technology on both individuals and societies. It also encourages teamwork and communication skills, some of the most important skills for the working world.

The Hong Kong Walkability Analysis project will use urban planning methods to help recommend actions that will positively impact the residents of urban Hong Kong. This analysis will involve both a qualitative and quantitative analysis as well as working with other people, forcing the students to use skills in teamwork, communication, and technology. The team's goal is to perform a complete analysis of several urban areas in Hong Kong and suggest ways to enhance the walking experience in Hong Kong. To complete this task, we must immerse ourselves in the culture and learn to walk the streets as if we were locals. We must work as a team to complete our investigation and report in order to effectively share our conclusions with the sponsoring agencies and Worcester Polytechnic Institute.

Appendix C: Interview Protocol for Interview with Suzanne LePage

Interview Conductors:

Michael Audi

Suzanne Najem

*Using a Semi structured Interviewing Process

*One conductor will lead the interview session while the other takes accurate notes of all responses

Start interview with a statement ensuring confidentiality

Guidelines to Follow

- Interview an expert in the field
- Describe the project at hand and explain why we would like to interview them.
- Ask about qualifications
- Use 2 or 3 open-ended questions to get the interview started.
- Use responses to the open ended questions to formulate more goal specific questions
- Control the specific questions
- Probe using techniques such as Uh-huh or Tell-Me-More or The Long Question Probe
- Once a topic has been narrowed down, use an open-ended question to move to a new topic
- End the interview with a question similar to: With your expert opinion what recommendations do you have for our project?
- Thank interviewee at the end.
- Follow up

Appendix D: Interview with Suzanne LePage

Date & Time: 11/19/2010 at 12pm

Location: KH209A

Secretary: Suzanne Najem

Interviewer: Michael Audi

Interviewee: Professor Suzanne LePage

Interview Transcript

Mike asked can we cite you personally or do you wish to remain anonymous?

- Professor Suzanne LePage said the group could cite her.

Mike asked what do you think walkability means in urban areas?

- Professor Suzanne LePage answered that walkability is the level at which people feel safe and also convenience, how easy is it to get around. She also said safety is measured with street lights, and crowd control also deals with safety because you don't know who is in the crowd.

Mike asked what should we be looking for when assessing walkability in urban area?

- Professor Suzanne LePage answered that origins and destinations should be looked at for walkability. The group should look at where people are traveling to and where they are coming from to show where the focus points are. She also mentioned the different routes people may be walking, place to place vs. place to transit vs. transit to place. She also mentioned crowding issues again and how it is a contributing factor to walkability.

Suzanne LePage went on to comment on Hong Kong and walkability by saying we should look in the future and what will happen if the standards of living increase and there are more personal cars on the road and people stop walking or stop taking public transportation. She continued by saying if we make the sidewalks huge now, what will happen when everyone starts driving their own car, they will be obsolete.

Professor Suzanne LePage continued talking about mode splits and how many people now may be walking and taking public transportation but the mode split will change someday and what effects will that have on walkability.

Mike asked do you have any further thoughts on our project that may be helpful for us?

- Professor Suzanne LePage said try to identify the worse areas in Hong Kong and if there is one major area with a lot of problems stemming from that area, try to find a solution to that area and it will help the surrounding areas as well. She called it a capital solution. She then continued on about using maps and GIS software. She also recommended videotaping some areas because we might get a different perception of the area and can better analyze it later

because we can refer back to the tape. We should also get data on sidewalks and use the resources at the library such as inter library loan and a reference librarian.

Mike asked, "Are there any books you recommend?"

- Professor Suzanne LePage said to try the APA walkability guide and Sustainability Urbanism.

Appendix E: Online Questionnaire

1. Do you consider yourself a resident or a visitor to Hong Kong?

Resident

Visitor

2. If you are a visitor, what is your country of origin?

3. If you are a visitor, how many times have you visited Hong Kong?

0

1-2

3-10

10 or more

4. How do you get from place to place? (Choose your primary mode of transportation)

Taxi

Bus

Bicycle

Walk

Private Vehicle

MTR

Other (please specify)

5. Which districts do you travel to the most? (Choose all that apply)

Lei Yue Mun

Tsuen Wan

Tsing Ye North

Yau Ma Tei

West Kowloon Cultural District

To Kwa Wan
Tsim Sha Tsui West
Tsim Sha Tsui East
Hung Hom West
Hung Hom East
Kai Tak
Yau Tong Bay
Yau Tong
Kennedy Town
Sai Wan
Sai Ying Pun
Sheung Wan
Central
Wan Chai West
Wan Chai East
Island East
Chai Wan
None of the above

6. Based on your answer(s) to the previous question, how easy is it to walk around this district?

7. How important are these factors to your walking experience?

Least Important (1), Somewhat Important (2), Impartial (3), Important (4), Most Important (5)

Amenities (i.e. benches, bathrooms)

Recreational Facilities (i.e. parks, sports fields)

Lighting of area

Condition of walkways

Police presence

Directional signage

Other (please specify)

8. What kind of improvements do you want to see to improve the pedestrian experience? (please be specific)